

First record of *Hypostomus boulengeri* (Siluriformes: Loricariidae) from Bermejo River basin

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Abstract: *Hypostomus boulengeri* (Eigenmann and Kennedy, 1903) is a poorly known species recorded from the Paraguay and Paraná River basins. In this work we report the occurrence of this species in the Bermejo River basin for the first time, representing a distribution range extension of more than 600 km.

Key words: fishes, biogeography, Salta, Río de la Plata basin, Hypostominae

Resumen: Primer registro de *Hypostomus boulengeri* (Siluriformes: Loricariidae) en la cuenca del Río Bermejo. *Hypostomus boulengeri* (Eigenmann y Kennedy 1903) es una especie poco conocida, registrada en las cuencas de los ríos Paraguay y Paraná. En este trabajo reportamos por primera vez la presencia de esta especie en la cuenca del río Bermejo, que representa una ampliación en la distribución de más de 600 km.

Palabras clave: peces, biogeografía, Salta, cuenca del Río de la Plata, Hypostominae

INTRODUCTION

The Loricariidae is one of the most diverse families within the order Siluriformes, with more than 915 valid species in 70 genera (Eschmeyer and Fong, 2016) and within this family, the Hypostominae is the most species-rich, geographically widespread, and ecomorphologically diverse subfamily (Armbruster, 2004). *Hypostomus* is the most diverse genus in the subfamily Hypostominae and one of the most common and ubiquitous genera in South America (Silva *et al.*, 2006) comprising 143 valid species (Froese and Pauly, 2016).

Hypostomus boulengeri (Eigenmann and Kennedy, 1903) was originally described in the genus *Plecostomus* based on two small specimens (6 and 10 cm) from “Mato Grosso [Brazil] or Asuncion [Paraguay]” (Eigenmann and Kennedy, 1903). In any case, the type locality of *H. boulengeri* was clearly situated in the Paraguay River basin. Almost 80 years later, Weber (1986) redescribed *H. boulengeri* with specimens from the Paraguay River basin at Paraguay country. Weber (2003) listed *H. boulengeri* from Argentina, but without providing locality details or voucher

specimens. López *et al.* (2005) confirmed the presence of this species in Argentina, for the ‘Alto Paraná’ in the provinces of Misiones and Corrientes. Almirón *et al.* (2008) added new records for this species from localities corresponding to the lower Paraná River basin at several localities in Entre Ríos, Argentina. We collected new specimens of *Hypostomus* from Bermejo River basin, in Salta, which after comparisons with collection specimens and diagnoses from the literature correspond to *H. boulengeri*. This is the first report of occurrence of *Hypostomus boulengeri* in the Bermejo River basin.

MATERIALS AND METHODS

During an ichthyological survey at the Bermejo River basin, in the province of Salta, in September 2015 we collected some specimens later identified as *H. boulengeri* (Fig.1). After the analysis of material housed at the ichthyologic collection of the *Fundación Miguel Lillo* we detected some additional material from that basin. Our specimens were collected using hand nets, anesthetized with an overdose in benzocaine solution, fixed in 4% formalin solution for seven

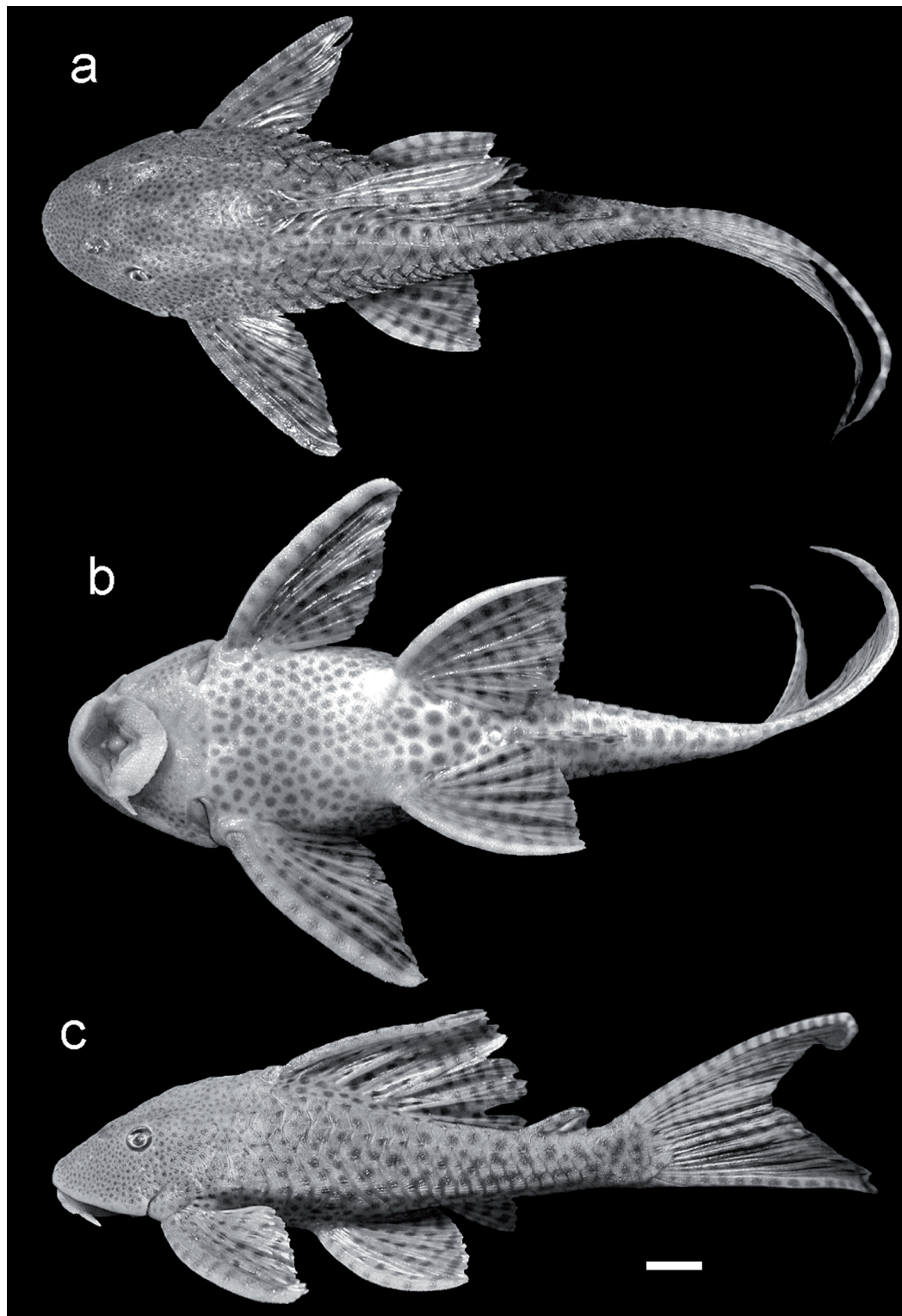


Fig. 1. *Hypostomus boulengeri* from Arroyo Aguas Lindas ($23^{\circ}0'53.38''S$, $64^{\circ}21'53.73''W$; 345 m asl), 110.3 mm SL, CI FML 7100. Dorsal (a), ventral (b) and lateral (c) views. White bar = 10 mm.



Fig. 2. Geographical distribution of *Hypostomus boulengeri*, black rhomboid symbols represent new records presented herein and black circular symbols represent previously known records for the species. One symbol may represent more than one record.

days, and conserved in 70% ethanol after fixation before deposition in the ichthyological collection of the *Fundación Miguel Lillo* (CI-FML).

RESULTS

Examined Material

Hypostomus boulengeri. Argentina: Salta, Orán 09/2015, coll.: F. Alonso, G.E. Terán, G. Aguilera and J. M. Mirande: CI-FML 7100, 1 ex. Aguas Lindas stream (23° 0'53.38"S, 64°21'53.73"W; 345 m asl); CI-FML 7101, 1 ex. Stream with no name between Blanco River and Pescado River (23° 1'33.18"S, 64°21'37.14"W; 345 m asl); Salta, Departamento de Rivadavia near La Unión, Madrejón el Devisadero (23°46'26.69"S, 63° 4'5.14"W; 227 m asl), 01/2014: CI-FML 7099, 5 ex., and CI-FML 7102, 1 ex.

Identification

Hypostomus boulengeri is distinguishable from the other species of the genus by the following combination of characters: deep head and rounded snout, presence of four notorious keels along

body side from head to caudal-fin base, eye diameter 6 to 8 in head length, 12 to 30 small bicuspid teeth in each premaxilla and dentary, and body background color grayish-brown, scattered with big dark-brown circular blotches, smaller on snout (Almirón *et al.*, 2008).

DISCUSSION

In this note we add three new collecting sites for this species (Fig. 2), which correspond to the first records of *Hypostomus boulengeri* from the Bermejo river basin. These represent a lineal geographic distribution range extension of more than 612 km from the nearest point (locality near Asunción in Paraguay) in which this species was previously registered and also represent its western-most record. Two of these new collecting sites are the first records of this species in the Yungas province (*sensu* Morrone, 2014) and the highest altitude recorded for the species (350 m asl). The upper Bermejo River basin has usually clear water (except in the rainy summer) while the middle course of this river has much turbid

water, which may represent a geographic barrier for some species. This partial isolation might be one of the explanations for the fish endemisms present in the upper Bermejo River basin (e.g. Casciotta & Almirón, 2004; Mirande *et al.*, 2004a, 2004b, 2006, 2011; Rodríguez and Miquelarena, 2005; Miquelarena and Menni, 2005, Calviño and Alonso, 2009). But, even if the species inhabiting that region were not endemic, as *H. boulengeri*, it is worth reporting their occurrence both to know their actual distribution and to use this information in conservation strategies.

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